ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 Mary A. Gade, Director

ILLINOIS EPA RECORD OF DECISION

REMEDIAL ACTION REQUIRED

Site: Batavia Groundwater Contamination
Kane County/Batavia
LPC: 0894135101

SITUATION

Routine water sampling by the Illinois Department of Public Health ("IDPH") identified groundwater contamination in several semi-private and non-community public service wells in Batavia, Illinois. Subsequent investigation by the Illinois EPA and IDPH have defined the area where groundwater contaminated with Vinyl Chloride and other volatile organic contaminants ("VOCs") has been detected. The surface area overlying the contaminated groundwater is roughly bounded by the Fox River on the West, Laurel Street on the North, Illinois Route 25 on the East and Bond Drive on the South; and is known as the Batavia Groundwater Contamination Site ("Site"). See map, attachment I.

The investigation performed by a Multi-Site Contractor, Graef, Anhalt and Schloemer ("GAS") in 1997 indicates that contamination exists in unconsolidated material (above bedrock) and in both Silurian and Cambro-Ordovician bedrock groundwater aquifers. Samples from the 700' deep aquifer (the St. Peter Sandstone in the Cambro Ordovician), which is used for public water supply contained 16 ppb Vinyl Chloride, 420 ppb Cis-1,2-dichloroethylene and other VOCs. Samples from the 200' shallow Silurian aquifer, used for private wells contained 1,100 ppb Vinyl Chloride, 2,100 ppb Cis-1,2-dichloroethylene and other VOCs. An additional concern of significant importance is the presence of a 715' deep production well which hydraulically connects the highly contaminated shallow aquifer to the St. Peter Sandstone. The municipal water supply well and numerous private wells have been tested and no contamination has been found in any well currently used for drinking water.

The investigation indicates that there are probably two or more sources of contamination, but the exact location of those sources has not been identified. The locations and depths at which contamination was detected vary considerably and the contamination is not continuous throughout the site. The source of the contamination affecting the Montessori School well appears to be near the North end of the site. One source of contamination affecting Batavia Concrete, Inc., Eagle Concrete, Inc. and Funway Amusement Park appears to be located on or close to one of those facilities. Additional sources of contamination may also be present.

A 4(q) and 58.9 Notice has been prepared and will be sent to several potentially responsible parties ("PRP"s). The Identified Response Action required of the PRPs is described in the Scope of Work included here as attachment II.

DESCRIPTION OF REMEDIAL ACTION

The Scope of Work (attachment II) designed to accomplish the following objectives is outlined below:

A. Locate the source of contamination affecting the groundwater at the Montessori School.

B. Locate the source(s) of contamination affecting groundwater at the Batavia Concrete Co. and Funway Amusement Park.

C. Evaluate the impact of the 715 foot deep well at Batavia Concrete Co. on the St. Peter Sandstone.

D. Locate the source(s) of soil contamination at Eagle Concrete Co.

ESTIMATED COST

The above work is estimated to cost $465,000. This would include $380,000 for field work by GAS and their subcontractors, $15,000 for field use of the Illinois EPA mobile lab and $70,000 for Illinois EPA laboratory analysis of 140 samples.

CONCLUSIONS AND RECOMMENDATIONS

The risk that contamination will reach municipal or private wells is significant. Therefore, it is necessary to locate the source(s) of contamination and evaluate the most effective way to respond. The PRPs may respond to the Section 4(q) and 58.9 Notice by agreeing to perform all, part, or none of the work as described in the Notice. The Bureau of Land and IDPH agree that GAS should be tasked to perform the balance of the investigation.

DECLARATIONS

I have reviewed the facts in this matter and, in my opinion, remedial actions by the Illinois EPA are justified. Furthermore, I have determined that the remedial action at the Batavia Groundwater Contamination site will mitigate the immediate and significant risk of harm to human health and the environment. I have also determined that the action has been approved for State-financed remedial action.

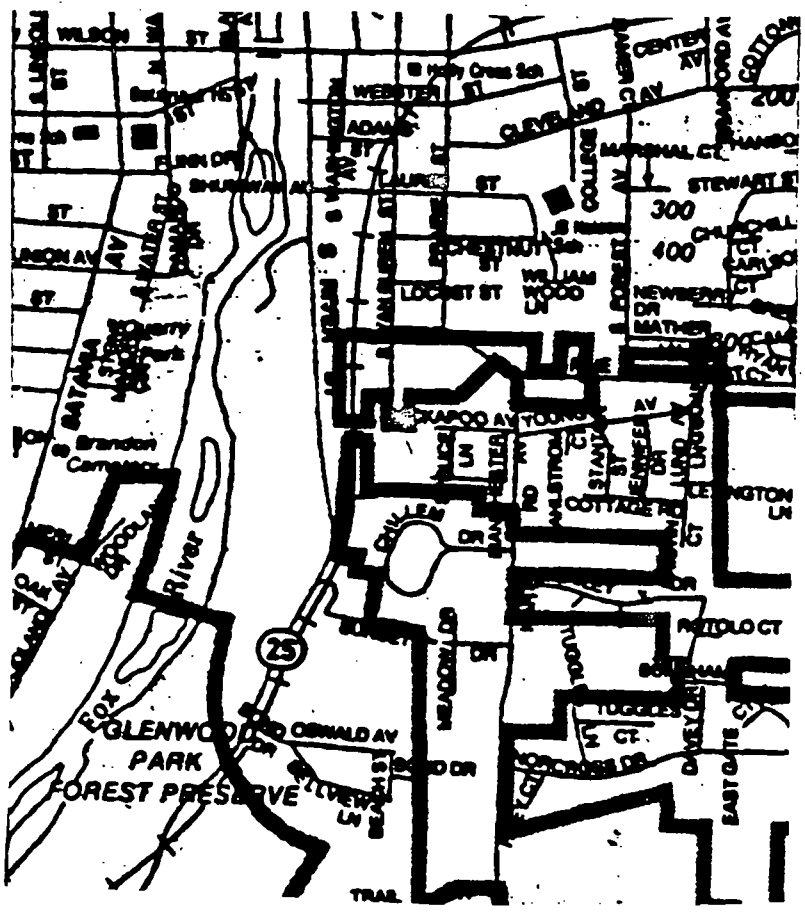
Mary A. Gade, Director
Illinois Environmental Protection Agency

4/20/98
Dated

attachments (2)

ATTACHMENT I

The surface area overlying the contaminated groundwater is roughly bounded by the Fox River on the West, Laurel Street on the North, Illinois Route 25 on the East and Bond Drive on the South and is known as the Batavia Groundwater Contamination Site (site).



north

FERMI NATIONAL ACCELERATOR LABORATORY

Street map for Batavia, Illinois

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 Mary A. Gade, Director

ATTACHMENT II

SCOPE OF WORK FOR BATAVIA GROUNDWATER CONTAMINATION SITE

OBJECTIVE This Work Plan is designed to accomplish four main objectives.

A. To locate the source of contamination affecting the groundwater at the Montessori Academy.

B. To locate the source(s) of contamination affecting groundwater at the Batavia Concrete Co. and Funway Amusement Park.

C. To evaluate the impact of the 715 foot deep well at Batavia Concrete Co. on the St. Peter Sandstone, the aquifer which supplies water to municipal wells.

D. To locate the source(s) of soil contamination at Eagle Concrete Co.

WORK PLAN(S) A single Work Plan can be prepared which includes a separate Sampling Plan to address each of the above objectives. If the work is to be conducted by different parties, a separate Work Plan can be developed for each of the above objectives.

SITE SPECIFIC HEALTH AND SAFETY PLAN The Work Plan(s) shall include a Site-Specific Health and Safety Plan which addresses OSHA Hazardous Waste Operation and Emergency response regulations as outlined in 29CFR1910.120.

SAMPLING PLANS A Sampling Plan shall be developed for each area to be investigated. Differing sampling collection methods will be required to investigate near surface and to various depths, including 700 feet below ground surface. Because the contaminants of concern are volatile organic compounds (VOCs), extreme care will be required when sampling, to prevent exposure of the sampled material to the air. The Sampling Plan shall specify all Chain of Custody and Quality Assurance procedures to be used in sample collection and transport. All analysis shall take place at the Illinois EPA laboratory or other Illinois EPA approved lab. All samples shall be analyzed for VOCs.

SAMPLING PLAN A A minimum of twelve monitoring wells shall be installed at the Montessori School and properties to the north of the school at locations specified by the Illinois EPA. Two of these wells shall be 200 feet in depth and installed by drill rig. The remaining wells shall be installed in unconsolidated material to top of bedrock. The wells/borings in the unconsolidated material can be installed by geoprobe and must be properly abandoned after soil and groundwater samples have been collected and analyzed.

*Soil samples shall be collected at two-foot intervals in the deep monitoring wells and at four-foot intervals in the geoprobe boring points, with a maximum of two soil samples from each well sent to a laboratory for chemical analysis. Duplicate soil samples shall be collected from each interval of each boring. One sample from each pair shall be packed into a 2 oz bottle with no head-space and placed in a cooler at 4 degrees C. The duplicate of each sample shall be placed in a 4 or 8 oz bottle with headspace and tightly capped. (An acceptable alternative would be to seal the duplicate sample in a zip lock bag.) The duplicate samples shall be allowed to reach room temperature. The headspace in each bottle shall then be measured with a field monitoring instrument such as a portable gas chromatograph or photo ionization detector and the readings recorded. The two samples from each boring whose duplicates have the highest readings shall be sent to the laboratory for analysis. If there are no differences in the readings, the two deepest samples from each boring shall be sent for analysis.

*Waterloo multi-level monitoring systems with 6 monitoring locations (50 ft., 75 ft., 100 ft., 125 ft., 150 ft. & 200 ft.) shall be installed in the 200 foot deep wells. Water samples shall be collected from each level.

*The school well and the two monitoring wells installed by the Agency in 1997 shall be re-sampled.

SAMPLING PLAN B A minimum of 18 monitoring wells shall be installed at the Batavia Concrete Co. & Funway Amusement Park area at locations specified by the Illinois EPA. A minimum of two of those wells shall be installed by drill rig to a depth of 200 feet. The remaining wells shall be installed in unconsolidated material, to top of bedrock. The wells/borings in the unconsolidated material can be installed by geoprobe and must be properly abandoned after soil and groundwater samples have been collected and analyzed.

*Soil samples shall be collected at two-foot intervals in the deep monitoring wells and at four-foot intervals in the geoprobe boring points, with a maximum of two soil samples from each well sent to a laboratory for chemical analysis. Duplicate soil samples shall be collected from the each interval of each boring. One sample from each pair shall be packed into a 2 oz bottle with no head-space and placed in a cooler at 4 degrees C. The duplicate of each split sample shall be placed in a 4 or 8 oz bottle with headspace and tightly capped. (An acceptable alternative would be to seal the duplicate sample in a zip lock bag.) The duplicate samples shall be allowed to reach room temperature. The headspace in each bottle shall then be measured with a field monitoring instrument such as a portable gas chromatograph or photo ionization detector and the readings recorded. The two samples from each boring whose duplicates have the highest readings shall be sent to the laboratory for analysis. If there are no differences in the readings, the two deepest samples from each boring shall be sent for analysis.

*Waterloo multi-level monitoring systems with 6 monitoring locations (50 ft., 75 ft., 100 ft., 125 ft., 150 ft. & 200 ft.) shall be installed in the 200 ft deep wells. Water samples shall be collected from each level.

*The two 200 foot deep production wells at Batavia Concrete and all monitoring wells at Batavia Concrete and Funway shall be re-sampled.

*A minimum of five sediment samples shall be collected from the bottom of the waste concrete pit at Batavia Concrete. One sample shall be collected from the center point of each side and at least one from the center of the bottom. A dredge or similar tool shall be used for sampling.

SAMPLING PLAN C Packer tests shall be performed at 25 foot levels in all formations down to and including the top of the St. Peter sandstone in the 715 food deep Batavia Concrete well. A sample shall be collected at each level for analysis.

SAMPLING PLAN D A minimum of 11 borings shall be advanced at Eagle Concrete for the purpose of sample collection. Four of those borings shall be advanced by a drill rig, at an angle under the west side of the foundation of the recently constructed office building. A minimum of seven borings shall be advanced along the western edge of the property and can be advanced by geoprobe or drill rig. All borings shall be advanced to top of bedrock.

*Soil samples shall be collected at two-foot intervals in the borings advanced by drill rig, and at four-foot intervals in the borings advanced by geoprobe, with a maximum of two soil samples from each boring sent to a laboratory for chemical analysis. Duplicate soil samples shall be collected from each interval of each boring. One sample from each pair shall be packed into a 2 oz bottle with no head-space and placed in a cooler at 4 degrees C. The duplicate of each sample shall then be placed in a 4 or 8 oz bottle with headspace and tightly capped. (An acceptable alternative would be to seal the duplicate sample in a zip lock bag.) These samples shall be allowed to reach room temperature. The headspace in each bottle shall be measured with a field monitoring instrument such as a portable gas chromatograph or photo ionization detector and the readings recorded. The two samples from each boring whose duplicates have the highest readings shall be sent to the laboratory for analysis. If there are no differences in the readings, the two deepest samples from each boring shall be sent for analysis.

*In addition to the above protocol, the samples collected from underneath the building shall be visually examined for the presence of material, other than native soil .
